GOL'DREYER, I.G.; PETROVA, M.L.

Ratiometering photometer. Izm.tekh. no.5:57-59 My '60.
(MIRA 14:5)

(Photometers)

CA PETROVA, M. L.

Second-order Raman spectra of crystals of sodium bromide and potassium iodide. A. I. Stekhanov and M. L. Petrova (Leningrad Phys.-Tech. Inst.). *Zhur Eksptl. Teoret. Fiz.* 19, 1108-12(1949).—The spectra were obtained with cylindrical single crystals 20–40 mm. high, diam. 8–10 mm., grown from the fused salts, in excitation with Hg 2537 A. in 5.5 hrs. and 16 hrs. exposure for NaBr and KI, resp. The observed frequencies are, for NaBr, 31, 64, 116, 152, 181, and 254 cm.$^{-1}$; for KI, 64, 91, 105, 123, 172, and 255 cm.$^{-1}$; the extension of the Raman spectrum, 401 and 380 cm.$^{-1}$, resp. Hence, the range of greatest d. of frequencies in the elastic spectrum of the crystal is estd. to 60–140 and 30–180 cm.$^{-1}$ for NaBr and KI, resp. The temp. dependence of the intensity, specifically the validity of the relations of Cross, *et al.* (C.A. 44, 4333g) requiring, at sufficiently high temps., a proportionality of the intensity of the 2nd-order Raman spectrum with T^2, could not be ascertained for KI owing to the absorption in 2537 A. appearing at 130° C. In contrast thereto, NaBr was found to be transparent to 2537 A. up to 400° C. By photographic photometry the ratios of the intensities of the frequencies 31, 64, 116, 152, and 254 cm.$^{-1}$, at 550° and at 390° K., were found to be 1.05, 0.98, 0.97, 0.95, and 0.84, very close to the values following from the exact formula of G., P., and S., and fairly close to the approx. T^2 law. N. Thon

S/115/60/000/05/28/034
B007/B011

AUTHORS: Gol'dreyer, I. G., Petrova, M. L.

TITLE: Logometric Photometer

PERIODICAL: Izmeritel'naya tekhnika, 1960, No. 5, pp 57-59

TEXT: The authors state that most of the deficiencies exhibited by photoelectric measuring instruments are eliminated by the application of the logometric method in their construction. The conditions required for maintaining the logometric principle are listed. It is recommended that the logometric method be applied to the construction of photometers. Various problems arising from spectrum analysis can be solved with the aid of these photometers. The electronic measuring devices are the same for all tasks of this kind. Specific features in one or the other type of optical measurement are taken into account when working out the respective concrete optical equipment. The latter forms the feeler for the electronic circuit. The block diagram of the logometric photometer is shown in Fig. 1 and described. Fig. 3 shows the circuit diagram of the system. The conditions to be maintained in the construction of feelers

Card 1/2

Logometric Photometer

S/115/60/000/05/28/034
B007/B011

are listed. The logometric photometer ФФ-2 (FF-2) is described to exemplify the application of the logometric method. This photometer serves for the luminescence-spectroscopic analysis of semitransparent NaF(U) beads for their uranium content. The device consists of a feeler and the electronic measuring block. Fig. 4 shows the optical scheme of the photometer, a description of which is added. Ya. V. Puminov took part in the elaboration and tuning of the various circuit elements. There are 4 figures.

Card 2/2

KAUFMAN, B.D.; MIRONTSEVA, K.S.; PETROVA, M.M.; SHABASHOVA, N.Ya.

Methodology of the study of late results of the treatment of patients with malignant tumors. Vop. onk. 11 no.1:59-67 '65.

(MIRA 18:5)

1. Is Orgmetodotdela (ispolnyayushchiy obyazannosti zaveduyushchego - B.D.Kaufman) Instituta onkologii AMN SSSR (dir. - deystvitel'nyy chlen AMN SSSR prof. A.I.Serebrov).

PETROVA, M.M.

TEPPER, P.A.; PETROVA, M.M. (Moskva)

Specific therapy of serous pleuritis. Klin. med. 32 no.12:28-33 D '54.

1. Iz 2-go terapevticheskogo otdeleniya TSentral'noy klinicheskoy bol'nitsy MPS.

(PLEURISY, therapy
specific)

TSFASMAN, A.Z.; PETROVA, M.M. (Moskva)

Distribution of radioactive iodine in the human organism. Probl. endokr. i gorm. 4 no.5:31-33 S-O '58. (MIRA 11:12)

1. Iz 4-y kafedry terapii (zav. - chlen-korrespondent AMN SSSR prof. P. I. Yegorov) TSentral'nogo instituta usovershenstvovaniya vrachey.
(IODINE, radioactive,
distribution in human organs (Rus))

ACC NR: AP6035599

SOURCE CODE: UR/0387/66/000/010/0069/0

AUTHORS: Faytel'son, A. Sh.; Khazanova, P. B.; Petrova, M. M.

ORG: State Geological Committee SSSR, Office of Special Geophysical Exploration (Gosudarstvennyy geologicheskiy Komitet SSSR, Spetsgeofizika)

TITLE: Dependence of head-wave velocity on depth, and the structure of the upper parts of the crystalline basement (according to results of seismic and gravity field studies in the central and northwestern parts of the Russian platform)

SOURCE: AN SSSR. Izvestiya. Fizika Zemli, no. 10, 1966, 69-73

TOPIC TAGS: earth crust, earth gravity, seismic modeling

ABSTRACT: Seismic work on the central Russian platform and in the Baltic region in recent years has shown variations in head-wave velocities for different segments of the basement; these depend on rock densities (as revealed in size and sign of anomalies). Velocity data have been placed on a graph of velocity versus depth of basement, and comparisons have been made with curves, obtained from laboratory data, of velocity versus pressure, with depth indicated as a function of pressure. Pressure on basement rocks was computed according to the formula $P = \sigma H$, where σ is the density of the sedimentary layer, assumed to be 2.4 g/cm^3. Curves for two possible types of basement rocks were selected for comparison: granite and gabbro. The effect of refraction is less than previously assumed, probably because of temperature effects.

Card 1/2

UDC: 550.834

ACC NR: AP6035599

Comparisons were also made with gravity p[illegible] lowest velocities correspond to zones with lowest gravity values, and highest velocities correspond to greatest gravity values. Three models of basement structure are proposed: Gradual lateral change from material of one density to another, a sharp break along a vertical boundary, and a sharp break along an inclined boundary. The authors conclude that the third model is best for the investigated region. Orig. art. has: 3 figures.

SUB CODE: 08/ SUBM DATE: 14Sep65/ ORIG REF: 004/ OTH REF: 001

Card 2/2

SMORODINTSEV, A.A.; BOYCHUK, L.M.; SHIKINA, Ye.S.; MESHALOVA, V.N.; LUGININA, N.M.; BYSTRYAKOVA, L.V.; PETROVA, M.N.

Reactogenic and immunogenic properteis of live tissue measles vaccine. Trudy Len.inst.epid.i mikrobiol. 19:3-20 '59.

(MIRA 16:2)

1. Iz virusologicheskoy laboratorii (rukovoditel' - chlen-korrespondent AMN SSSR prof. A.A. Smorodintsev) Leningradskogo instituta epidemiologii, mikrobiologii i gigiyeny imeni Pastera.
(MEASLES--PREVENTIVE INOCULATION) (VACCINES)

18(7) SOV/32-25-9-24/53

AUTHORS: Strunina, Ye. M., Petrova, M. N.

TITLE: Application of the Method of Magnetic Metallography for an Investigation of the High-speed Steel R18

PERIODICAL: Zavodskaya laboratoriya, 1959, Vol 25, Nr 9, pp 1092-1093 (USSR)

ABSTRACT: For the determination of the residual austenite in R18-steel the method of magnetic metallography suggested in reference 1 was applied. The method is based on the fact that colloidal magnetic particles which are applied to the ground section in the form of a paste are accumulated at the ferromagnetic phases while the nonmagnetic phases remain free. Austenite and the carbide phase of R18-steel are nonmagnetic and therefore remain free of colloidal particles; however, they can be distinguished from one another as they exhibit different structures. Test results showed that up to 30% of the residual austenite is present in the microstructure of a steel tempered at 1,280°. After treble drawing at 560° there is no more austenite visible in the steel (Fig 2). On tempering at 1,310° the residual amount of austenite is considerably increased. Determinations of the residual austenite were also made on finished cutters, and it was established that among other

Card 1/2

Application of the Method of Magnetic Metallography for an Investigation of the High-speed Steel R18 SOV/32-25-9-24/53

things the low strength of the cutters investigated was due to the presence of considerable amounts of residual austenite. There are 2 figures and 3 Soviet references.

Card 2/2

STRUNINA, Ye.M.; PETROVA, M.N.

Applying the method of magnetic metallography to the study of R18 high speed steel. Zav.lab. 25 no.9:1092-1093 '59. (MIRA 13:1)

(Tool steel--Metallography)

PETROVA, M.N.

"Reference manual for supervisor of d.c. electrified railroads" by A.A. Bashurin, V.B. Lapin, M.B. Prusakov. Reviewed by M.N. Petrova. Elek. i tepl. tiaga 2 no.5:3 of cover '58.

(MIRA 12:4)

1. Starshiy inzhener tekhnicheskogo byuro Moskovsko-Smolenskogo energouchastka, Kalininskaya doroga.
(Electric railroads--Substations)

U.S.S.R. / Human and Animal Physiology. Blood. T

Abs Jour: Ref Zhur-Biol., No 5, 1958, 22071.

Author : Petrova, M. P.
Inst : Not given.
Title : The Sequence of Erythrocytes Demolition Under the Effect of Hemolytic Agents.

Orig Pub: Sovrem. probl. gematol. i perelivaniya krovi (actual problems of hemotology and circulation' Dyp. 32. M., Medgiz, 1956, 52-57.

Abstract: Erythrocytes (E) from fresh blood of donors were washed in a 0.9% solution of NaCl and distributed in 2 ml amounts in test tubes. Two ml of a solution of Saponin (S) in a concentration of 0.0125-0.25% were added and continuously agitated. In intervals of 1,2,3,6 and 24 hours the electrical conductivity was measured (an alter-

Card 1/4

U.S.S.R. / Human and Animal Physiology. Blood.

Abs Jour: Ref Zhur-Biol., No 5, 1958, 22071.

Abstract: tion of I were only partially deformed. The examination of electro-metrical and microscopical data allows the division of of stromatolysis into 2 stages; (1) the stage of stromoporosis (SP) in which the E freely allows the passage of the eletrical current while still maintaining its structure and (2) the stage of stromatolysis (breakdown of the body of E). Full electrical conductivity from the preceding stages of E breakdown chemical and osmotic hemoglobinolysis.

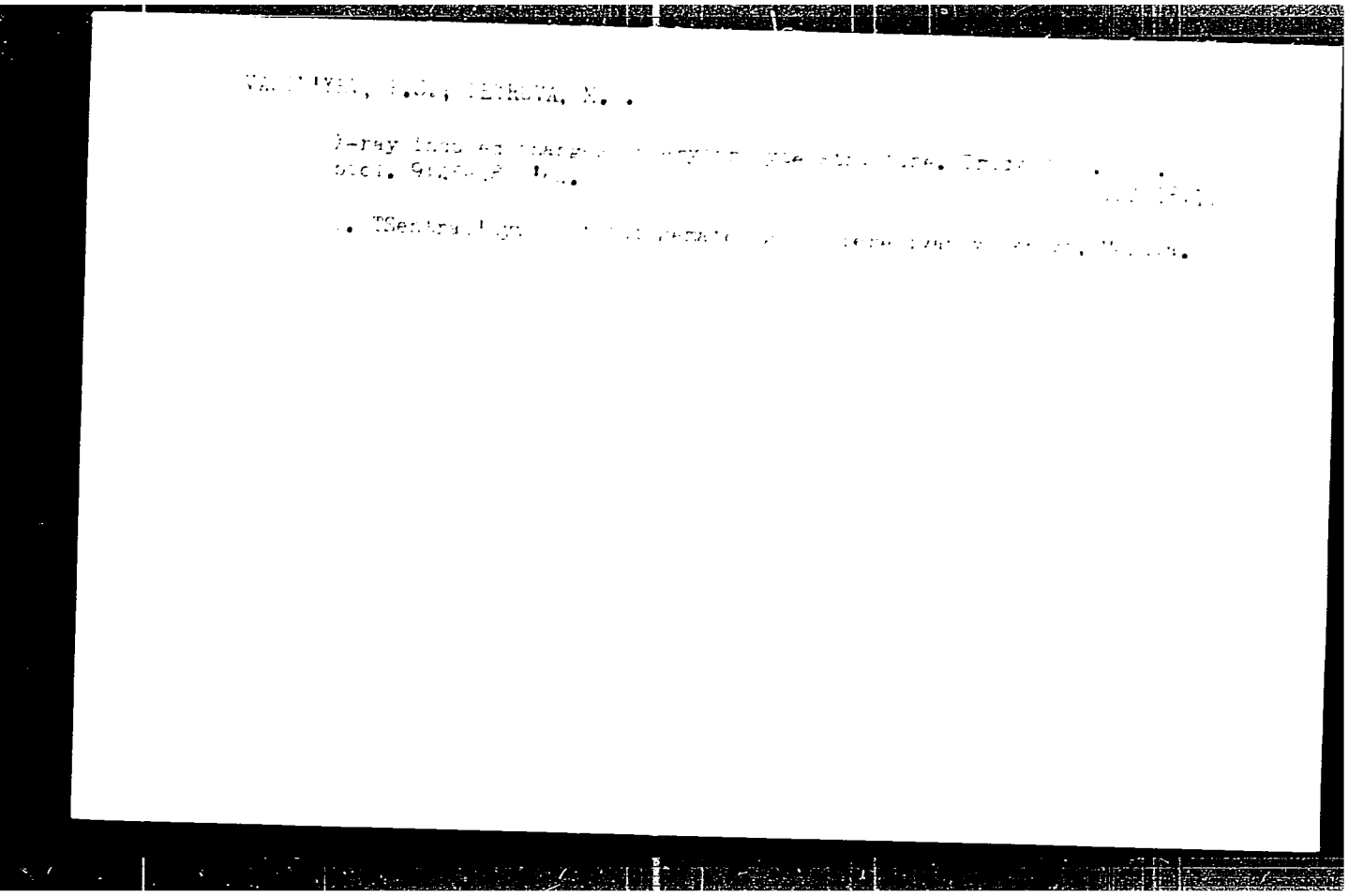
In order to study the colloido-osmotic properties of the stroma in the stage of SP, 0.2ml of stroma was previously prepared by hemolysis of E in 0.1% sol. of I; 0.2ml of Nac (0.9 and 20%

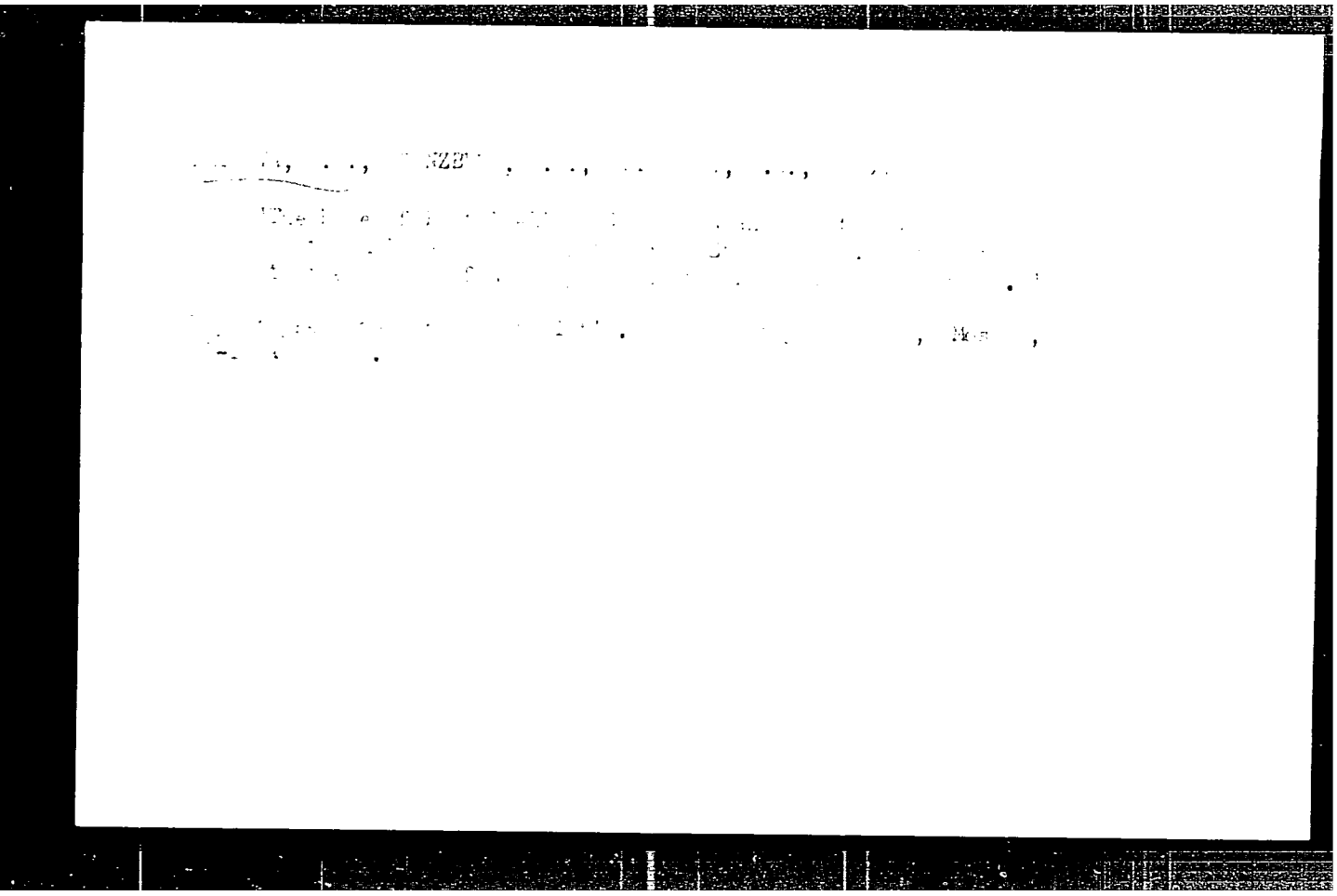
Card 3/4

PETROVA, M.P.; DOLGINA, A.I.

Analysis of mixtures of methylamines and ammonia by gas-liquid partition chromatography. Zhur. anal. khim. 19 no.2:239-242 '64. (MIRA 17:9)

1. Gosudarstvennyy institut prikladnoy khimii, Leningrad.

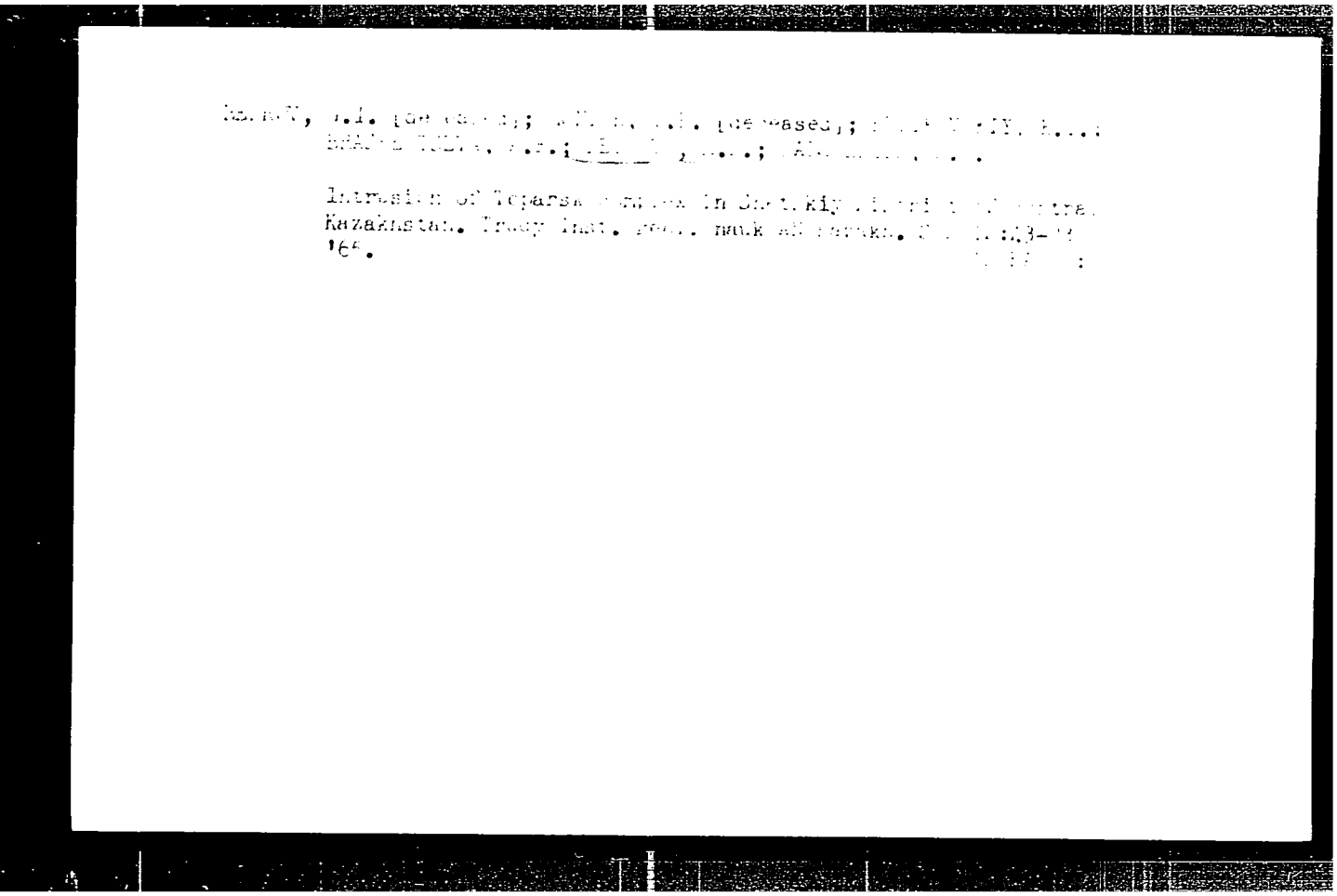




TRUKHAN, P.T.; TISHCHENKO, I.T.; STANKEVICH, L.A.; POPOVA, A.A.; DOBROVSKAYA, A.R.; prinimali uchastiye: PETROVA, M.P.; RYAZANSKAYA, A.A.; TRIGUBOV, S.P.; RABINOVICH, A.M.; GELER, S.S.

Use of γ-globulin for the prevention of infectious hepatitis in children's collectives. Report No.2: Results of epidemiological observation in children's collectives. Zhur. mikrobiol., epid. i immun. 42 no.11:138 N '65. (MIRA 18:12)

1. Kiyevskiy institut usovershenstvovaniya vrachey, Kiyevskaya gorodskaya sanitarno-epidemiologicheskaya stantsiya i sanitarno-epidemiologicheskaya stantsiya Podol'skogo rayona Kiyeva (for Trukhan, Tishchenko, Stankevich, Popova, Dobrovskaya). 2. Podol'skaya rayonnaya sanitarno-epidemiologicheskaya stantsiya Kiyeva (for Petrova, Ryazanskaya, Trigubov, Rabinovich, Geler).



EXCERPTA MEDICA Sec 6 Vol 13/7 Internal Med. July 59

3627. EXAMINATION OF SUCCESSIVE STAGES OF ERYTHROCYTE DESTRUCTION UNDER THE INFLUENCE OF HAEMOLYTICS (Russian text) - Petrova M. P. - From the symposium: SOVREM. PROBL. GEMATOL. I PEREL. KROVI NR.32 (Medgiz. Moskva) 1956 (52-57)

The erythrocytes (E) of the blood freshly obtained from donors were washed thoroughly with a 0.9% solution of NaCl and put into 2 ml. test tubes; 2 ml. of saponin (I) was added in a concentration of 0.0125-0.25%; the mixture was thoroughly shaken and the electrical conductivity was measured 30 min. 1 2 3 6 and 24 hr. later (using alternating current of 880-930 c. p. s. frequency). Twenty-four hr later, all specimens were centrifuged for 30 min. at 10,000 r. p. m. for the separation of the formed elements and the haemolysate. The electrical resistance was also determined in the haemolysate. In a concentration of 0.1% of saponin the resistance of suspension and environment equalized, and disintegration of the skeleton of E, i. e. stromatolysis (S), set in. When the concentration of I was increased, S set in immediately; when the concentration was decreased, S did not even start 24 hr. later. S was basically determined by the concentration of I and to a lesser degree by the period of its action. When E were haemolysed with a 0.1% solution of I, E were only partially deformed. The comparison of electrometric and microscopic data made possible the division of S into the stage of stromaporosis (SP), when E admit freely the electrical current and still maintain their structure, and the stage S. The full conductivity of the electrical current by stromas distinguishes the stage SP from the preceding stages of disintegration of E - the chemical and the osmotic haemoglobinolysis. In order to study the colloidal osmotic qualities of the SP stage of the stromas, 0.2 ml. of stromas obtained from the haemolysis of E with a 0.1% solution of I were put in a number of test tubes, and 0.2 ml. of solution of NaCl (0.9 and 20%), serum or plasma were added. Examinations with the haematocrit have revealed that the volume of stromas in the SP stage did not undergo any changes during this process; the E stromas are porous and permeable to salts and colloids. The SP is considered to be an intermediate stage between chemical haemoglobinolysis and total S. The basic characteristic feature of S is the disintegration of the structure of E.

(S)

PE[illegible]OVA, [illegible]

"C[illegible] V[illegible] of A[illegible] [illegible]

of Aden[illegible] tri[illegible]," [illegible]

[illegible], De[illegible]t. of [illegible]

Haem[illegible]olog[illegible] and [illegible], [illegible]

RUBINSHTEYN, D.L.[deceased]; PETROVA, M.P.

Sensibilized calcium hemolysis. Vop.med.khim. 3:109-110 '51. (MIRA 11:4)

1. Fiziko-khimicheskaya laboratoriya TSentral'nogo ordena Lenina instituta gematologii i perelivaniya krovi, Moskva.
(HEMOLYSIS AND HEMOLYSINS) (CALCIUM CHLORIDE)

PETROVA, M. P.

PETROVA, M. P.: "Changes in the structure of the erythrocyte and the mechanism of hemolysis under the action of chemical hemolytics and in keeping preserved blood." Second Moscow State Medical Inst imeni I. V. Stalin. Moscow, 1956. (Dissertation For the Degree of Candidate in Biological Science.)

Knizhnaya Letopis'
No 32, 1956. Moscow.

KOSTYAYEV, P.S., inzh.; PETROVA, M.S., inzh.

Using plastics in the waterproofing of engineering structures. Transp.stroi. 9 no.5:54-55 My '59. (MIRA 12:12)
(Plastics)

PETROVA, M.S.

PHASE I BOOK EXPLOITATION SOV/1297

Vsesoyuznaya nauchno-tekhnicheskaya konferentsiya po primeneniyu radioaktivnykh i stabil'nykh izotopov i izlucheniy v narodnom khozyaystve i nauke, Moscow, 1957

Polucheniye izotopov. Moskhanizye gamma-ustanovki. Radiometriya i defektoskopiya; trudy konferentsii... (Isotope Production. High-energy Gamma-Radiation Facilities. Radiometry and Dosimetry; Transactions of the All-Union Conference on the Use of Radioactive and Stable Isotopes and Radiation in the National Economy and Science) Moscow, Izd-vo AN SSSR, 1958. 293 p. 5,000 copies printed.

Sponsoring Agency: Akademiya nauk SSSR; Otdeleniye upravleniya po ispol'zovaniyu atomnoy energii SSSR.

Editorial Board: Prolov, Yu.S. (Resp. Ed.), Zhavoronkov, N.M. (Deputy Resp. Ed.), Aglintsev, K.K., Alekseyev, B.A., Bochkarev, V.V., Lebedinskiy, A.I., Malkov, T.P., Sinitsyn, V.I., and Popova, O.L. (Secretary); Tech. Ed.: Novichkov, M.D.

PURPOSE: This collection is published for scientists, technologists, persons engaged in medicine or medical research, and others concerned with the production and/or use of radioactive and stable isotopes and radiation.

COVERAGE: Thirty-eight reports are included in this collection under three main subject divisions: 1) production of isotopes 2) high-energy gamma-radiation facilities, and 3) radiometry and dosimetry.

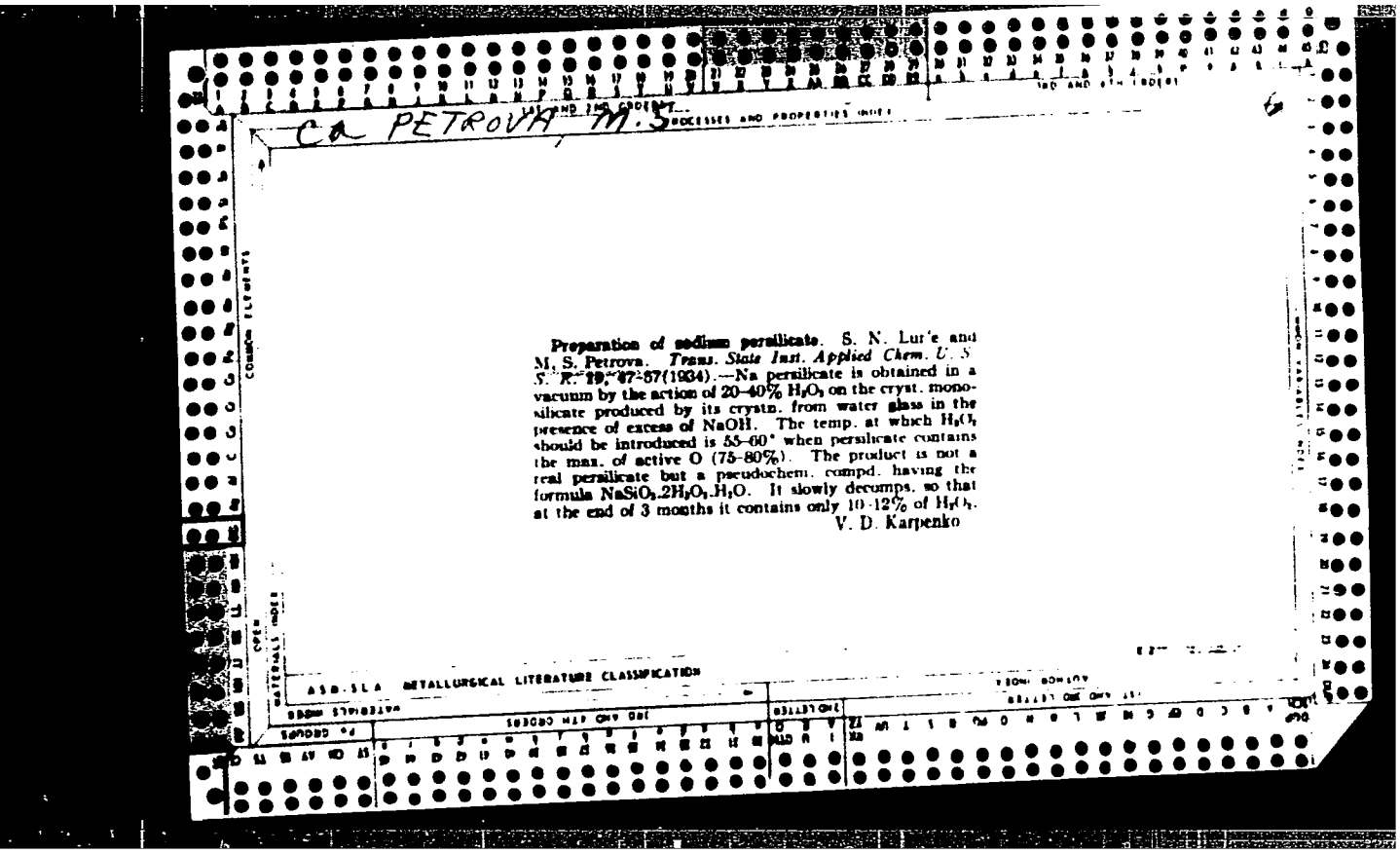
TABLE OF CONTENTS:

PETROVA, [illegible]

"Square and Square-Checkrow Planting of Cabbage." Cand Agr Sci, [illegible] Agricultural Inst, Min Higher Education, Leningrad-Pushkin, [illegible]

Survey of Scientific and Technical Dissertations Defended at [illegible] Institutions (15)

SO: Sum. No. 5[illegible], 24 Jul 55



Ca PETROVA, M. S.

Preparation of sodium persilicate. S. N. Lur'e and M. S. Petrova. *Trans. State Inst. Applied Chem. U. S. S. R.* 19, 87-97(1934).—Na persilicate is obtained in a vacuum by the action of 20–40% H_2O_2 on the cryst. monosilicate produced by its crystn. from water glass in the presence of excess of NaOH. The temp. at which H_2O_2 should be introduced is 55–60° when persilicate contains the max. of active O (75–80%). The product is not a real persilicate but a pseudochem. compd. having the formula $NaSiO_3.2H_2O_2.H_2O$. It slowly decomps. so that at the end of 3 months it contains only 10–12% of H_2O_2.

V. D. Karpenko

A58-51A METALLURGICAL LITERATURE CLASSIFICATION

SEDOV, V.V.; PETROVA, M.S.; NESTERENKO, V.S.; MANDEL'TSVAYG, Yu.B.

Experimental study of kidney function using cardiotrast (I^{131}). Med. [illegible] [illegible] Ap'63 (MIRA [illegible])

PETROVA, M.S.

5

Production of bromine-82 radioactive preparations. D. I. Ryabchikov, A. N. Ermakov, L. S. Kozyreva, and M. S. Petrova. *Primenenie Mechenykh Atomov v Anal. Khim., Akad. Nauk S.S.S.R., Inst. Geokhim. i Anal. Khim.* 1959, 187–91.—For the production of Na, K, and NH_4 bromides tagged with Br^{82}, the starting material was $BaBr_2$ rather than the usually employed org. Br compds. The use of the latter is inconvenient and the yield of radioactive Br small. $BaBr_2$ was chosen as target because neutron bombarded Ba does not form long-life isotopes, it is readily available in state of high purity, and Ba is readily adsorbed by base exchangers. $BaBr_2$ (10 g.) irradiated for 36 hrs. was dissolved in 30 ml. H_2O and the soln. passed through a chromatographic column contg. 90 ml. of swelled cationite at a rate of 0.8–1.0 ml./min./sq. cm. The column was then washed with 200 ml. H_2O, thus removing all of the Br^{82}. As cationite Amberlite IRC-50 was used as well as domestic (Russian) cationite KB-4. The cationite was treated with *N* HCl to complete removal of Fe, then transformed to a Na, K, or NH_4 form by treating with an alk. 10% soln. of NaCl, KCl, or NH_4Cl, and finally washed with H_2O to complete removal of Cl^-. By this method 95% of Br^{82} was recovered. M. Hosch

3

PETROVA(?), M. S., [illegible]BLIT, [illegible], SYTIN(?), [illegible], [illegible], [illegible] and [illegible]

"New methods of preparing alpha, beta, and gamma sources," [illegible] submitted at the International Conference on Radioisotopes in Scientific Research, Paris, 9-20 Sep 57.

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240530002-4"

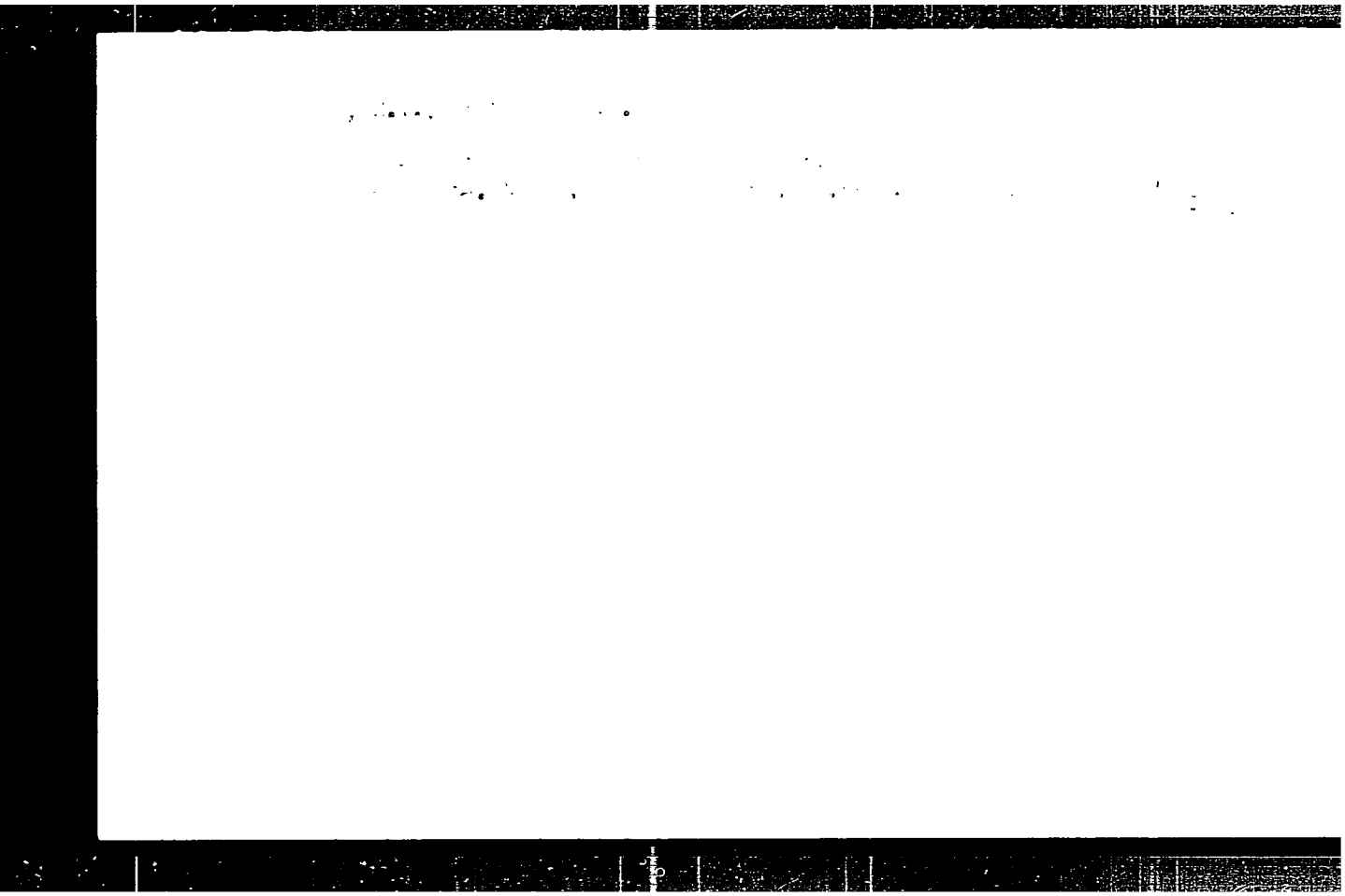
PETROVA, M S

Card 6/8

PETROVA, M.S.

Cabinet for manipulating radioactive materials. Zav.lab. no.4:502-504 '60. (MIRA 13:6)

1. Ministerstvo zdravookhraneniya SSSR.
(Laboratories--Furniture, equipment, etc.)



L 1309-66 EWT(1)/EPF(n)-2/EWG(m)/EPA(w)-2 IJP(c) AT
ACCESSION NR: AR5014394 UR/0058/65/000/004/D031/D031

SOURCE: Ref. zh. Fizika, Abs. 4D231

AUTHOR: Petrova, M. V.; Semenova, O. P. 44,55

TITLE: Temperature distribution through the cross section of an arc discharge in air and argon atmospheres

CITED SOURCE: Sb. Spektroskopiya. M., Nauka, 1964, 52-54

TOPIC TAGS: argon, arc discharge, temperature distribution, plasma physics

TRANSLATION: Cross sectional temperature distribution is determined for an arc discharge between carbon electrodes in air and in argon at a gas pressure of 600 mm Hg and a current of 9 amps. Cu lines were used for temperature determination. In the case of discharge in air, the electrodes were filled with a mixture of 3% CuO + 97% quartz. For studying the discharge in argon, the electrodes were soaked in a 10% solution of $CuCl_2$. The intensity at a given discharge point $I(r)$ is calculated from the total intensity $I(x)$, and the temperature is determined from the ratio of the intensities. The temperature of the discharge in air (~6000°K) varies smoothly along the cross section. The discharge in argon is made up of two zones with tem-

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L 1309-66
ACCESSION NR: AR5014394

peratures of 8000-9000 and 5000-6000°K. The difference in the nature of the discharges is explained by the difference in thermal conductivity of air and argon.
B. Yeliseyev.

SUB CODE: ME ENCL: 00

Card 2/2

PETROVA, M.V.; AKHMEDOV, K.S.

Interaction between the K-4 polymeric preparation and the suspensions of natural and cation-substituted forms of bentonite. Uzb. khim. zhur. 9 no. 4:58-63 '65. MIRA 18:12

1. Tashkentskiy gosudarstvennyy universitet imeni [illegible]. Chlen-korrespondent AN UzSSR (for Akhmedov). Submitted July 29, 1964.

PETROVA, M.V.; SOSNOVSKAYA, Ye.Yu.; AKHMEDOV, K.S.

Interaction between the K-4 polyelectrolyte and Keles bentonite suspensions. Nauch.trudy TashGU no.257.Khim.nauki no.12:89-93 '64. (MIRA 18:8)

3226

S/048/62/026/007/026/030
B125/B104

26.2311

AUTHORS: Semenova, G. P., and Petrova, M. V.

TITLE: Effect of argon, nitrogen, or air atmosphere on the radiation of an arc discharge

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya, v. 26, no. 7, 1962, 945-947

TEXT: Radiation, evaporation of the electrodes, and the external shape of metal (Cu, Fe, and carbon electrode discharges in argon, air, and nitrogen are compared with one another. When air is replaced by N_2 or Ar, the spectra become more similar to a spark spectrum. The Fe spectra in Ar at 600 mm Hg and in N_2 at 6 to 40 mm Hg have similar intensities and a similar nature. The arc spectra in N_2 at 200 mm Hg contain the brightest CN-, N_2^+, and NH bands and are more similar to a spark spectrum than the spectra in N_2 at 600 mm Hg. In N_2 at 600 mm Hg the electrodes

Card 1/2

B/048/62/026/007/026/030
B125/B104

Effect of argon, nitrogen, or air ...

evaporate much more rapidly (1.5 to 27 times more rapidly) than in Ar at 600 mm Hg or N_2 at 20 mm Hg (with Fe electrodes) or 200 mm Hg (with Cu electrodes). When estimating the cross section of electron scattering by the arc gas, the scattering of electrons by ions has to be taken into account. For discharges between carbon electrodes in Ar (600 mm Hg) the layer on the cathode occupies 1/3 of the arc gap. This phenomenon and the intensity distribution of the lines ArI CI and the Balmer lines of hydrogen along the arc resemble a glow discharge. The arc cross section consists of a blue-gray center, a narrow dark space, and a luminescent shell. This is obviously due to temperature distribution. When air is replaced by nitrogen or argon, the discharges are similar to those at lower pressures. There are 2 figures and 2 tables.

Card 2/2

BOKOVA, N.A.; SEMENOVA, O.P.; PETROVA, K.V.

Effect of the atmosphere on radiation from an arc [illegible]. Izv. vys. ucheb. zav.; fiz. no.5:156-165 '63.

1. Sibirskiy fiziko-tekhnicheskiy institut pri Tomskom gosudarstvennom universitete imeni V.V.Kuybysheva.

ACCESSION NR: AP4002280 S/0139/63/000/005/0156/0165

AUTHORS: Bokova, N. A.; Semenova, O. P.; Petrova, M. V.

TITLE: Influence of atmosphere on arc discharge radiation Part III

SOURCE: IVUZ. Fizika, no. 5, 1963, 156-165

TOPIC TAGS: arc discharge radiation, low current arc discharge, nitrogen arc discharge, argon arc discharge, nitrogen argon atmosphere, arc discharge gas, arc discharge temperature, discharge cross section temperature distribution, discharge gas conductance, discharge gas thermal conductivity, discharge excitation condition, discharge gas ionization potential, nitrogen plasma thermal conductivity, arc energy balance, photographic photometry, arc discharge spectrum

ABSTRACT: The temperature distribution T(r) across a low-current arc discharge between carbon electrodes has been studied analytically and then verified experimentally. The electrodes are assumed to be in an argon or nitrogen atmosphere under 600 mm Hg pressure. The analysis consists of solving the heat balance equation

$$\sigma E^2 + \frac{1}{r}\frac{d}{dr}\left(r\varkappa\frac{dT}{dr}\right) = 0 ,$$

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ACCESSION NR: AP4002280

where σ and x - electrical and thermal conductivities respectively are assumed to be functions of temperature. A detailed derivation is made of the thermal conductivity in argon with 5% carbon vapor mixture 4000-12 000C temperature range and nitrogen with 10% carbon vapor in 4000-8000C temperature range. The electrical conductivity is represented by $\sigma = \frac{e^2 n_e}{\sqrt{3\kappa m_e T}} \cdot \frac{1}{n_e Q_i^e + \sum_{j=1}^{k} n_{0j} Q_{0j}^e}$; where both electron-ion and electron-atom collisions are included. Experimental measurements of temperature were made in a vacuum arc chamber with the spectrograph ISP-51 and chamber UF-84. The radial distribution of I(r) from I(x) was estimated from Abel's integral. The results show good agreement with theory and predict the influence of type of gas used on T(r). Orig. art. has: 12 equations and 4 figures.

ASSOCIATION: Sibirskiy fiziko-tekhnicheskiy institut pri Tomskom gosuniversitete imeni V. V. Kuyby*sheva (Siberian Physical and Technical Institute, Tomsk State University)

SUBMITTED: 13Jul62 DATE ACQ: 02Dec63 ENCL: 00

SUB CODE: PH NO REF SOV: 006 OTHER: 012

Card 2/2

SEMENOVA, O.P.; PETROVA, M.V.

Effect of an argon, nitrogen, and air atmosphere on radiation from an arc discharge. Izv. AN SSSR. Ser. fiz. 26 no.7:945-947 Jl '62. (MIRA 15:8)

(Electric discharges through gases)

SEMENOVA, O.P.; PETROVA, M.V.

Problem of the effect of the atmosphere on the emission of an arc discharge. Izv.vys.ucheb.zav.;fiz. no.1:111-117 '62. (MIRA 15:6)

1. Sibirskiy fiziko-tekhnicheskiy institut pri Tomskom gosudarstvennom universitete imeni V.V. Kuybysheva.
(Electric discharges through gases)

S/139/62/000/001/018/032
E032/E314

26.2311
3,5134

AUTHOR: Semenova, O.P. and Petrova, M.V.

TITLE: On the effect of the ambient atmosphere on the emission of an arc discharge. II

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Fizika, no. 1, 1962, 111 - 117 + 2 plates

TEXT: In part I of this work (Ref. 1 - Izv. vyzov NV i SSO SSSR, Fizika, no. 2, 71, 1961) the authors reported an analysis of the reasons responsible for the change in the character of the spectrum of low-current arc when the surrounding atmosphere is changed. The present work was carried out in order to compare the properties of the emitted radiation, the amount of vapour of the electrode materials entering the discharge and the external appearance of the arc-discharge between metal and carbon electrodes. The experiments were carried out with argon, air and nitrogen at normal pressure and in nitrogen and air at reduced pressure. The vacuum arc described earlier by one of the authors (Ref. 2 - Izv. AN SSSR, ser. fiz., 11, 3, 246, 1947) was employed;

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S/139/62/000/001/018/032
On the effect of E052/E314

the spectra were recorded by ИСП-28 (ISP-28) and ИСП-51 (ISP-51) spectrographs with the ФЭР-84 (FER-84) camera. The arc discharge at a working current of 9A was investigated between metal and carbon electrodes (gap length 4 mm). The cathode was conical in form in order to stabilize the discharge. A detailed description is given of changes in the appearance of the spectra as a function of the discharge-arc parameters. Some typical spectra are reproduced. Comparison of a large number of these spectra in the case of iron electrodes in argon at 60 cm Hg and in nitrogen at 2 cm Hg shows that the intensity and the character of these spectra are variable. The spectra in nitrogen at 2 cm Hg may be either brighter or weaker than the spectra in argon at 60 cm Hg. The appearance of the spectra seems to begin on the entry of iron vapour from the electrodes into the discharge gap. Measurement were made of the loss of weight by the electrodes and it was found that replacement of air by nitrogen at the same pressure gave rise to a reduction in loss, particularly from the anode. In the case of copper electrodes in argon, air or nitrogen at 60 cm, it was found that replacement of air by

Card 2/3

nitrogen or, better still, by argon at the same pressure altered the appearance of the spectrum, making it approach the spark type. A study was also made of properties of the arc discharge between carbon electrodes. The general conclusion is that the replacement of air by nitrogen, or better still by argon, is in all cases equivalent to a transition to a discharge at a reduced pressure. The replacement of the ambient atmosphere in the low-current arc discharge has a definite effect on the emission, the particular mechanisms being a change in the amount of vapour of the electrode materials reaching the discharge, a change in the electron-scattering cross-sections and various dissociation processes. L.P. Suravtyeva took part in the experiments. There are 6 figures and 3 tables.

ASSOCIATION: Sibirskiy fiziko-tekhnicheskiy institut pri Tomskom gosuniversitete imeni V.V. Kuybysheva (Siberian Physicotechnical Institute of Tomsk State University imeni V.V. Kuybyshev)

SUBMITTED: January 23, 1961

SEMENOVA, O.P.; PETROVA, M.V.

Effect of the atmosphere on the radiation of an arc discharge. Part 1. Izv.vys.ucheb.zav.; fiz. no.2:71-76 '61. (MIRA 14:7)

1. Sibirskiy fiziko-tekhnicheskiy institut pri Tomskom gosuniversitete imeni V.V.Kuybysheva.

(Electric arc)

9.3150 (2205, 1049, 1482, 1502)
26.2310

S/139/61/000/002/009/018
E032/E414

AUTHORS: Semenova, O.P. and Petrova, M.V.

TITLE: The Effect of the Atmosphere on the Radiation Emitted by an Arc Discharge. Part I

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Fizika, 1961, No.2, pp.71-76

TEXT: K.N.Mochalov and Ye.L.Raff (Ref.1 and 2) have shown that the radiation emitted by an arc discharge excited between metal electrodes exhibits considerable spectral changes when the air is replaced by an inert gas. This replacement gives rise to an enhancement of the ionic and a reduction of the atomic line intensities. The intensity redistribution has also been observed by B.Vallee, M.Baker, Adelstein and Peattie (Ref.3 - 7) in the case of carbon electrodes when the air was replaced by an inert gas. It is stated that these and associated phenomena have not as yet been explained in the published literature. The present authors discuss the various effects which may be responsible for the changes in the spectrum which occur on replacement of the air by an inert gas. A general analysis is made of the radial temperature distribution T(r) across the arc.

S/139/61/000/002/009/018
E032/E414

The Effect of the Atmosphere ...

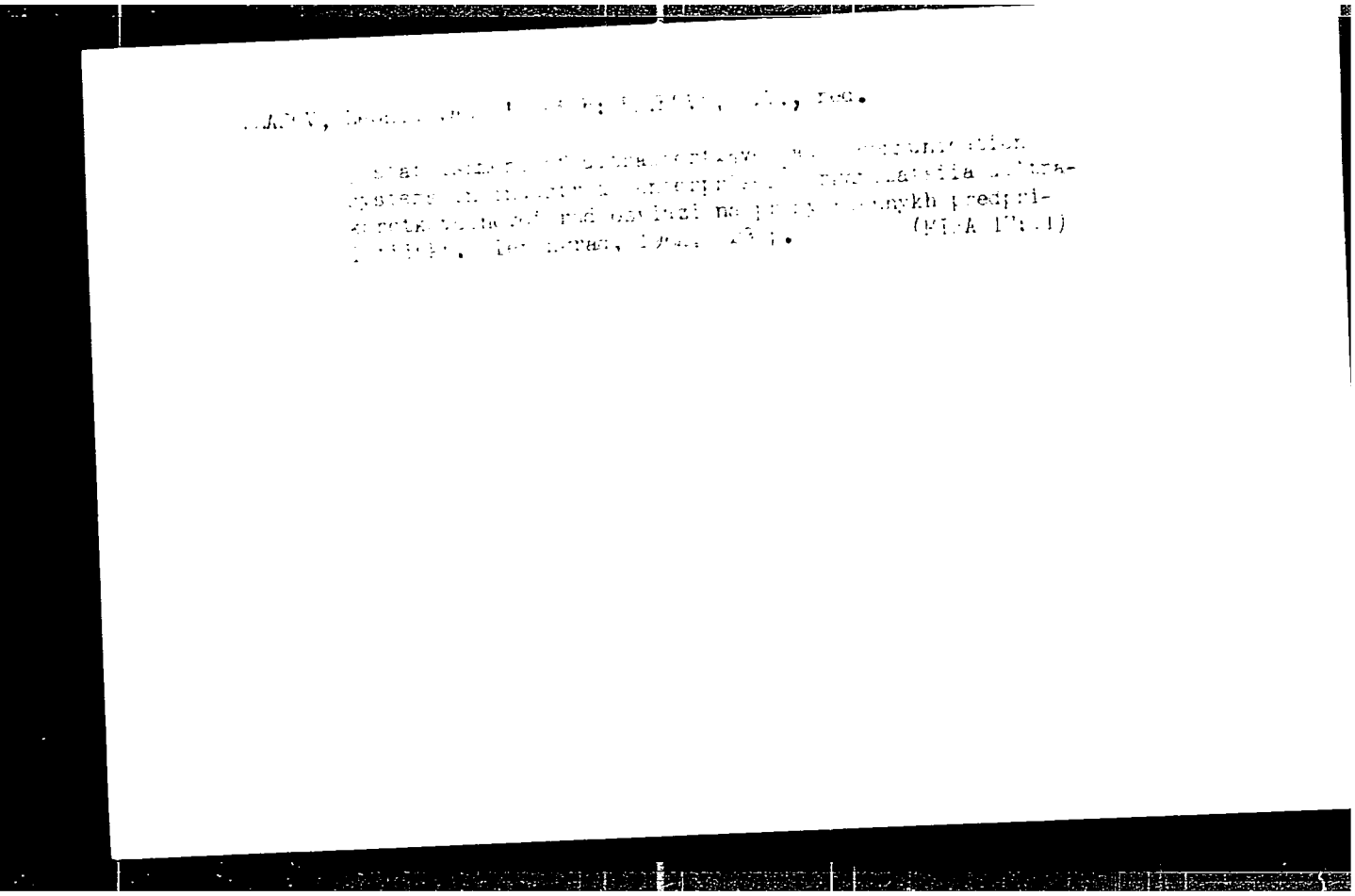
It is concluded that the intensity redistribution in the spectrum of atoms entering the arc from the electrodes is due to the excitation of a smaller number of these atoms at the resulting higher temperature T(r), and the change in T(r) on replacement of the gas is due to a change in the concentration of easily ionizable atoms entering from the electrodes, a change in the effective electron scattering cross-sections of the gas and, in the case of a molecular gas, dissociation effects. It is stated that a comparison of the emission of an arc discharge between metallic and carbon electrodes in argon, air and nitrogen at reduced pressure will be given in a subsequent paper. There are 27 references: 15 Soviet and 12 non-Soviet.

ASSOCIATION: Sibirskiy fiziko-tekhnicheskiy institut pri Tomskom gosuniversitete imeni V.V.Kuybysheva (Siberian Physicotechnical Institute at the Tomsk State University imeni V.V.Kuybyshev)

SUBMITTED: August 8, 1960

Card 2/2

Card 1/1



PETROVA, N.

PETROVA, N.

Analysis of Capparis spinosa seed oil. F. Zabrannyi, A. Ochakovskii and N. Petrova. Maslobolno-Zhirovaya Prom. 16, No. 5/6, 57-9 (1940). Caper seed from Lash-Kent and Zaamin contains 31-36% oil with variable but generally high acid no. 17.1 to 44.1, which increases in storage. The pure oil is pale yellow but the fruit pulp stains it bright red. Its I no. is 115-125; the glyceride compn. is: satd. acids 6.5-9.2, oleic acid 42.4-45.9, linolic acid 44.9-51.1%. Julian F. Smith

PETROVA, N.; POSTNIKOVA [translator]; GANCHEV, G. [translator]

Notes on determining suitable relationship between the measurements of angles and distances in the first-order triangulations. Izv geod BAN no.4:87-91 '63.

Influence of various electrolytes on the physical and chemical properties of sodium oleate. N. Petrova. *Maslobino Zhirovoe Delo* **1935**, 14, 8.—Acid (HCl), alk. (Na_2CO_3, Na_3PO_4, Na_2SiO_3) and neutral (NaCl) electrolytes were tested in aq. Na oleate solns. with respect to influence on lathering power (I), surface tension (II) and emulsifying power (III) of Na oleate. About 0.2% NaCl (calcd. on the wt. of soap) notably increases I and decreases II, but over 2% is needed even for a small increase in III. About 0.1 mol. HCl per mol. of Na oleate increases III, but adding more HCl influences soap properties unfavorably. Alk. electrolytes improve soap properties. 2% Na_2CO_3 (2% on the wt. of soap) sharply increases I and decreases II. Na_2SiO_3 and Na_3PO_4 have little influence at low concns. but are effective in the ratio 1:1. Numerical results are shown in tables and curves. Julian F. Smith

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

CHUKHAR'KO, Z.; SHEFER, G.; PETROVA, N.

Ways for reducing expenditures in receiving, processing, and storing corn. Muk.-elev. prom. 29 no.9:13-15 S '63. (MIRA 17:1)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut zerna i produktov yego pererabotki.

PETROVA, N.; POSNIKOVA [translator]; GANCHEV, G. [translator]

Connection of a lower-order triangulation to a higher-order triangulation by matrices. Izv geod BAN no.4:51-67 '63.

SOV/58-59-4-7303

Translation from: Referativnyy Zhurnal Fizika, 1959, Nr 4, p 13 (USSR)

AUTHOR: Petrova, N.

TITLE: On a Method of Solving Gravitational Equations for a System of Bodies

PERIODICAL: Uch. zap. Kazakhsk. un-ta, 1957, Vol 30, pp 87 - 98

ABSTRACT: Following up a previous study (Zh. eksperim. i teor. fiz., 1949, Vol 11, p 11), the author writes out gravitational equations for a system of n bodies in a next (third) approximation. These equations are very cumbersome, and their solution, as the author points out, presents serious difficulties. The author notes that it is not obligatory to solve gravitational equations in order to investigate the motion of bodies.

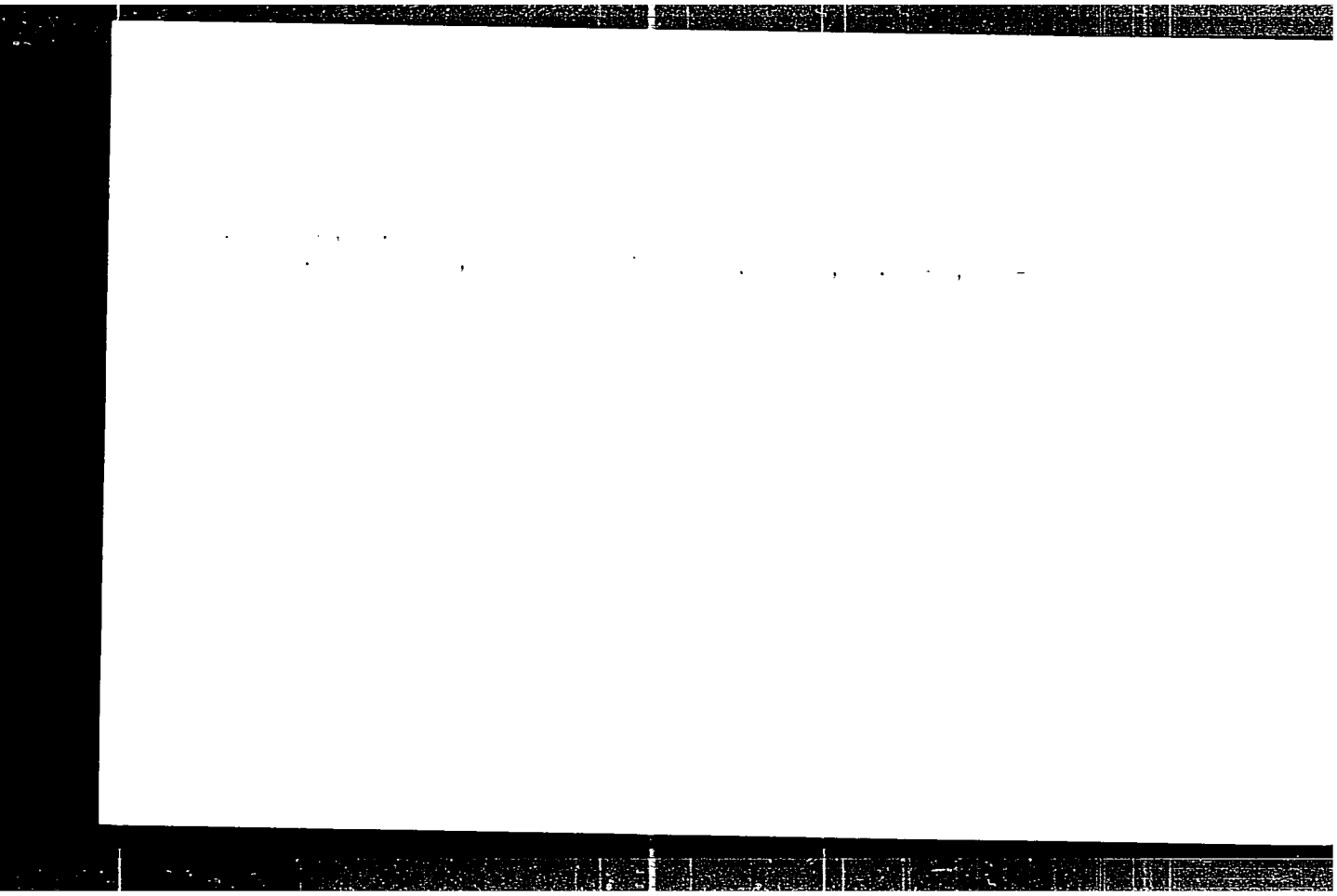
Ya. I. Pugachev

Card 1/1

PETROVA, N.

Research on archaeological plant materials. P. 17 (BULGARIA)
Sofiya, Bulgaria Vol. 47, no. 1, 1952-53 1953-54. (Published)

SOURCE: EHAL IC Vol. 5, no. , July 1956



USSR/General and Specialized Zoology - Insects. I.

Abs Jour : Ref Zhur - Biol., No 8, 1958, 35330

Author : Petrova, N.A.

Inst : The Azerbaijan Research Institute of Forestry.

Title : The Protection of the Walnut Crop Against the Walnut Leaf Roller Moth.

Orig Pub : Byul. nauchno-tekhn. inform. Azerb. n.-i. in-ta lesn. kh-va i agrolesomelior., 1957, No 1-2, 31-34.

Abstract : The leaf-roller moth breeds in two generations in Azergaijan, Gauze bands treated with an HCCH aqueous suspension lead to the highest mortality to the larvae. The bands are applied in the third tenth of June. HCCH scorches the green bark of the trees, it is therefore necessary to smear the trunk with a mixture of clay and manure (2:1 by volume) before the application of the bands. Dusting the walnut

Card 1/2

USSR / General and Special Zoology. Insects. Insect and Mite Pests. P

Abs Jour: Ref Zhur-Biol., No 12, 1958, 54411.

Author : Petrova, N. A.; Asanova, V. K.
Inst : Not given.
Title : Acorn Gall-Fly.

Orig Pub: Byul. nauchno-tekhn. inform. Azerb. n.-i. in-ta lesn. kh-va i agrolesomelior., 1957, No 1-2, 57-58.

Abstract: The gall-fly produces two generations: the bi-sexual generation develops in the shoots of the oak, and the monsexual (females) in the acorn where the gall-fly usually diapauses for 2-4 years. In Azerbaydzhan, the gall-fly is widespread in the region of Lenkorani, and has penetrated into Yalaminsky Leskhoz (Kuba-Khachmas zone). It damages

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PETROVA, N.A., kand.biolog.nauk

Fiftieth anniversary of the Ul'yanovsk Agricultural Experiment Station. Zashch. rast. ot vred. i bol. 5 no. 8:59 Ag '60.
(MIRA 13:12)
(Ul'yanovsk--Agricultural experiment stations)

PETROVA, N. A.

[illegible]

(The Physics of Dielectrics; Transactions of the All-Union Conference on the Physics of Dielectrics) Moscow, Izd-vo AN SSSR, 1958. 245 p. 3,000 copies printed.

This volume publishes reports presented at the All-Union Conference on the Physics of Dielectrics, held in Dnepropetrovsk in August 1956 sponsored by the "Physics of Dielectrics" Laboratory of the Fizicheskiy institut imeni Lebedeva An SSSR (Physics Institute imeni Lebedev of the AS USSR), and the Electrophysics Department of the Dnepropetrovskiy gosudarstvennyy universitet (Dnepropetrovsk State University).

AUTHORS: Kosman, M. S., Petrova, N. A. 48-22-3-18/30

TITLE: The Dielectric Constant of Rock Salt at High Temperatures (Dielektricheskaya pronitsayemost' kamennoy soli pri vysokikh temperaturakh)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Seriya Fizicheskaya, 1958, Vol. 22, Nr 3, pp. 311-314 (USSR)

ABSTRACT: The authors show in the present report that the high-voltage polarization of rock salt does not disappear at high temperatures as was presumed until recently. It degenerates into a low-voltage polarization (fig. 3). The increase of the carriers of absorption according to the increase in temperature is more rapid in this case than the decrease in voltage, so that the absorption charges increase according to the increase in temperature. Also the course of the absorption processes increase in velocity according to the rise in temperature. They can exercise an effect also on the high-frequency--characteristics at sufficiently high temperatures. It hence results that with measurements at high temperatures without corresponding control tests, absorption processes ought not to be completely abandoned, even when the measurements are

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carried out at high frequencies. The nature of the absorption processes cannot be considered fully explained, either in rock salt, or in other dielectrics. The fact that these processes are observed without exception in all substances which can be heated up to a corresponding temperature without melting or decomposing, makes the assumption of their electronic- and non-ionic-nature appear to be more probable. As it was shown by the last tests, the potential distribution in rock salt is not linear, contrary to the prevailing opinion: Potential differences causing the capacity of absorption, are concentrated in the vicinity of the two electrodes. The existence of these differences can be determined at high temperatures only some time after the self--discharge of the sample, since they are to small as to influence sensibly the distribution of the potential below the field. The existence of these differences may be of essential practical importance, since the strong electrode--near fields are able to influence the ion-processes and even to give a wrong idea on the conductivity of the substance. Effective E values which were calculated according to the charge voltage are shown in the last figure. The real difference of the potentials on the sample during the

discharge is essentially smaller. For this reason, the ε- -value which was calculated according to this voltage, may be discussed. The ε calculated in this way are excessively high at correspondingly high temperatures, even at a short discharge: e.g. the ε for one of the samples at 350°C and a discharge period of $2{,}5.10^{-2}$ sec is equal 3.10^{5}. Contrary to a wide-spread opinion, these excessive ε-values have a certain physical sense: the relaxation-time with charges at self-discharge of any substance is $\tau = \frac{\varepsilon\rho}{4\pi}$. Consequently, when the voltage on the sample decreases e-times due to a specific resistance of the sample of $10^{8}\ \Omega\ cm^{-1}$ in 100 sec, this signifies that the ε of the sample is not smaller than 10^{7}. The numbers given as example correspond to the experimental values and are observed also with substances with a macroscopic linear distribution of the potential (without remarkable electrode-near differences) with which the correctness of the determination of their specific resistance leaves not doubt open, e.g. with barium-titanate and zirconium dioxide. There are 5 figures and 2 references, 1 of which is Soviet.

The Dielectric Constant of Rock Salt at High Temperatures 48-22-3-18/30

ASSOCIATION: Leningradskiy gos. pedagogicheskiy institut im. A. I. Gertsena (Leningrad State Pedagogical Institute imeni A. I. Gertsen)

AVAILABLE: Library of Congress

1. Rock salt--Polarization--Temperature effects 2. Rock salt--Dielectric properties 3. Dielectrics--Properties

Card 4/4

PETROVA, N. A., Candidate Phys-Math Sci (diss) -- "Investigation of the dielectric permeability of rock salt at high temperatures". Leningrad, 1959. 7 pp (Min Educ RSFSR, Leningrad State Pedagogical Inst im A. I. Gertsen, Chair of General Phys), 150 copies (KL, No 24, 1959, 126)

POZIN, M.Ye.; KOPYLEV, B.A.; PETROVA, N.A.

Absorption of ammonia by copper ammine solutions in the foam apparatus. Zhur. prikl. khim. 31 no.7:1007-1013 Jl '58. (MIRA 11:9)

1. Leningradskiy tekhnologicheskiy institut im. Lensoveta.
(Ammonia) (Copper compounds) (Gas purification)

ARKHANGEL'SKIY, B.N.; BELYAKOVA, Ye.Ye.; GUREVICH, M.S.; ZAYTSEV, I.K., red.; ZINOV'YEVA, T.V.; MITGARTS, B.B.; MOROZOV, V.M.; PETROVA, N.A.; RASPOPOV, M.P.; TOLSTIKHIN, N.I.; TOLSTIKHIN, O.N.; POTAPOV, V.S., red.; GUROVA, O.A., tekhn. red.

[Explanatory notes to a hydrochemical map of the U.S.S.R. on a scale of 1:5,000,000] Ob"iasnitel'naia zapiska k gidrokhimicheskoi karte SSSR v masshtabe 1 : 5,000,000. Red. I.K. Zaitsev. Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po geol. i okhrane nedr, 1958. 138 p.
(MIRA 11:7)

1. Leningrad. Vsesoiuznyy geologicheskiy institut.
(Water, Underground--Maps)

17(4) SOV/20-123-4-50/54

AUTHOR: Petrova, N. A.

TITLE: On the Phytoplankton of the North-Western Bays of Ladoga Lake (O fitoplanktone severo-zapadnykh zalivov Ladozhskogo ozera

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol 123, Nr 4, pp [illegible] (USSR)

ABSTRACT: The north-western coastline of the Ladoga lake differs from all the other parts by a complex system of large bays and smaller skerries. Since these regions have not, as yet been described in publications with regard to the phyto-plankton, the Laboratory of Limnology, AS, USSR (see Association) investigated in 1956-57 the following bays as to their plankton: Sortoval'skiy, Kurkiyokskiy, and Yakimvar-skiy. There are 50-110 m deep and ample waters which are largely connected with the lake. Among the 270 species of algae found here the following groups are represented: bacillariophyta - 47.8%; chlorophyta - 27.0%; cyanophyta - 17.0%; chrysophyta - 5.2%; xanthophyta - 1.5%; pyrrophyta 1.0%, and euglenophyta - 0.5%. The diatoms are predominant not only regarding the number of species but also their wide-spread occurrence. The types occurring in masses amount to

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3.6% of the total number of species. 59% belong to the genuine plankton species, whereas 41% belong to the random plankton species. According to their ecological character, the majority of the species of algae is cosmopolitan (54%). Boreal (17%) and boreo-alpine species (14%) are less numerous than the cosmopolites but the most important for the ecological characteristics of these waters. This plankton composition suggests a prevailing of low temperatures. Regarding the salt content, the algae from the 3 bays are prevalently indifferent, i.e. typical fresh-water forms which, however, are able to exist at very small salt quantities in the water (78.2% of the species). A considerable amount is halophobic (15.5%). Halophiles occur to a lesser extent (6.3%). The population of all 3 bays is widely similar. Similar species make up 97%. The numerously occurring acidophilic algae (15.5%) are obviously related with seepage from the sphagnum- and hypnum swamps as well as from the swampy forest soils along the shore. The discussed phytoplankton is in its fundamental features typical of deep, oligotrophic boreo-alpine waters. The influence exercised by the shores upon the composition of the species is noticeable. There are 2 Soviet

On the Phytoplankton of the North-Western Bays of Ladoga Lake SOV/20-123-1-[illegible]

references.

ASSOCIATION: Laboratoriya ozerovedeniya Akademii nauk SSSR (Laboratory of Limnology, Academy of Sciences, USSR)

PRESENTED: August 22, 1958, by V. N. Sukachev, Academician

SUBMITTED: August 22, 1958

Card 3/3

PETROVA, N.P. (Moskva)

Mechanical suture in plastic surgery on the aorta in an [illegible] organism. Eksper. khir. i anest. 8 no.3:40 My-Je '63
(MIRA 17:1)

PETROVA, N.A.

Phytoplankton in the Yakimvarskiy Bay of Lake Ladoga. Bot.zhur. 44 no.9:1311-1314 S '59. (MIRA 13:2)

1. Laboratoriya ozerovedeniya AN SSSR, Leningrad.
(Ladoga, Lake--Phytoplankton)

PETROVA, N.A.

Composition and dynamics of phytoplankton in Yakimvarskiy Bay.
Trudy Lab. ozeroved. 12:211-235 'ol. (MIRA [illegible])
(Yakimvarskiy Bay--Phytoplankton)

DUTOVA, Ye.N.; PETROVA, N.A.

Microflora of underground waters in the Nebit-Dag oil field.
Trudy VSEGEI 46:453-455 '61. (MIRA 14:11)
(Nebit-Dag region--Water, Underground)
(Nebit-Dag region--Petroleum geology)

PETROVA, N. A.

Dissertation defended in the Botanical Institue imeni V. L. Komarov for the academic degree of Candidate of Biological Sciences:

"Composition and Dynamics of Phytoplankton of the Yakimvarskiy Cove of Lake Ladoga."

Vestnik Akad Nauk No. 4, 1963, pp. 119-145

PETROVA, Nina Anatol'yevna; BLYUMBERG, V.A., red.

[Mechanical processing of glass plastics; experience of the "Elektrosila" Plant of the Association of Electric Machinery Industries] Mekhanicheskaia obrabotka stekloplastikov; opyt zavoda "Elektrosila" elektromashinostroitel'nogo ob"edineniia. Leningrad, 1965. 25 p. (MIRA 18:5)

L 62944-65 EWT(m)/EWP(w)/EWA(d)/T/EWP(t)/EWP(z)/EWP(b) JD
ACCESSION NR: AR5019143 UR/0137/65/000/007/I029/I029

SOURCE: Ref. zh. Metallurgiya, Abs. 7I188

AUTHOR: Mishin, D. D.; Petrova, N. A.

TITLE: Temperature dependence of the magnetic properties of 79NM permalloy

CITED SOURCE: Sb. Fiz. magnitn. yavleniy. Sverdlovsk, 1964, 118-120

TOPIC TAGS: permalloy, magnetic permeability, metal heat treatment, metal aging, temperature dependence, magnetic saturation, magnetic induction, magnetic property/79NM permalloy

TRANSLATION: A study was made of the effect of temperature t on magnetic permeability μ, saturation induction B_s, the residual induction B_r, and H_c forhigh permeability 79NM permalloy. Toroidal samples were first subjected to a high temperature heat treatment in a vacuum at 1100C with subsequent cooling at a rate of 180 degrees/hour to 600C, and further cooling together with the furnace. Low

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L 62944-65

ACCESSION NR: AR5019143

temperature heat treatment (aging) was carried out in argon at 445C for 10 hours. It was established that, after the first heat treatment, μ depends sharply on t and has a maximum in the region of 100C. After aging, the temperature dependence of μ in the region 150-300C is stronger, while in the region from -196 to +100C it is weaker. After aging, B_s increases and changes its temperature path, particularly in the low temperature region. (From RZh, Fiz)

ENCL: 00

SUB CODE: MM

Card 2/2

L 1652-66 EWT(m)/EPF(c)/T/EWP(t)/EWP(k)/EWP(b)/EWA(c) IJP(c) BW/JD/HW/DJ

ACCESSION NR: AP5021583 UR/0286/65/000/013/0055/0055
665.5

AUTHOR: Veyler, S. Ya.; Petrova, N. V.; Zalivalov, F. P.; Likhtman, V. I.; Tomashov, N. D.

TITLE: Method for applying lubricating film. Class 23, No. 172445

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 13, 1965, 55

TOPIC TAGS: lubrication, film lubrication, solid lubricant

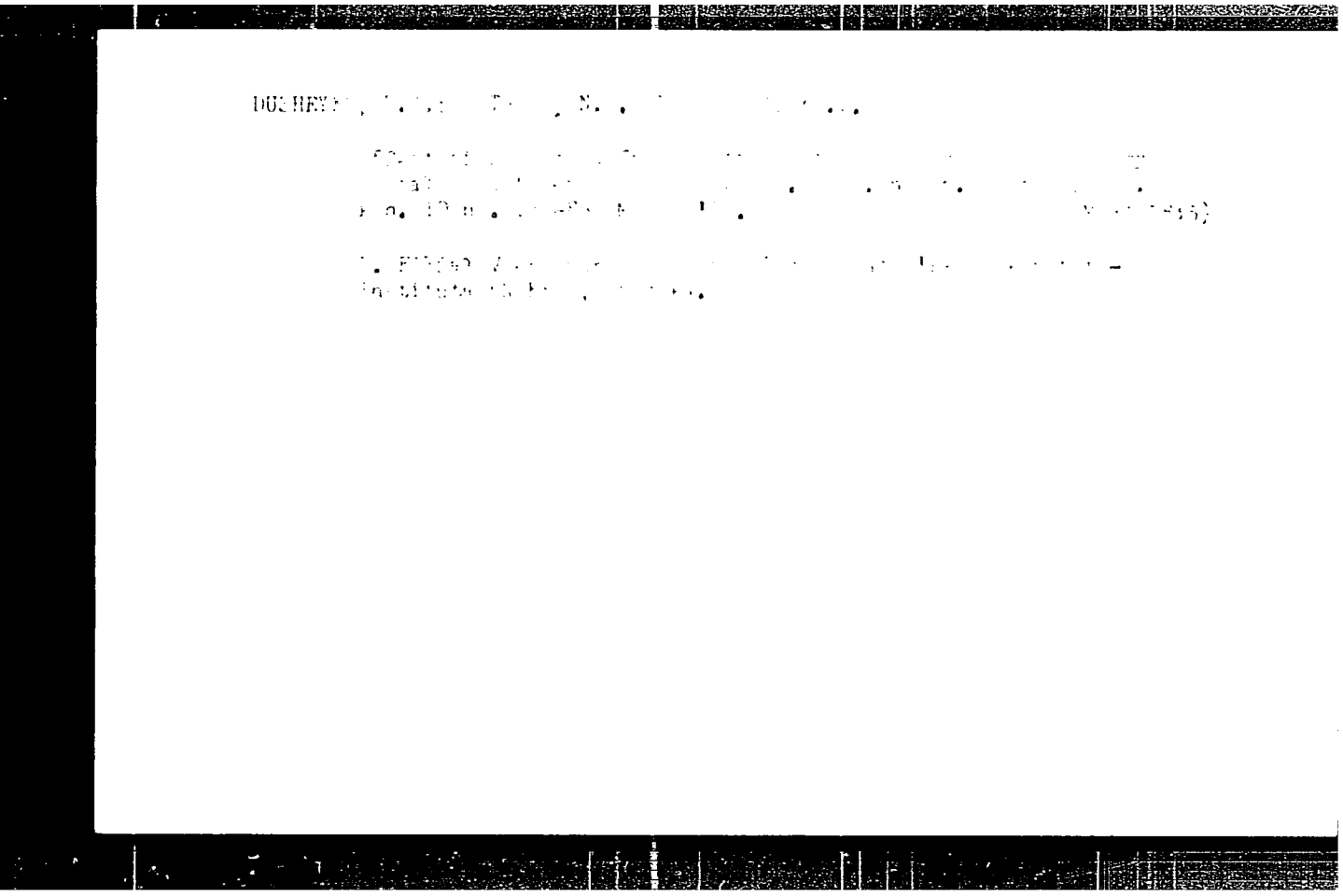
ABSTRACT: This Author Certificate introduces a method for hot working aluminum and its alloys in which the anodized layer serves as the lubricant. [AZ]

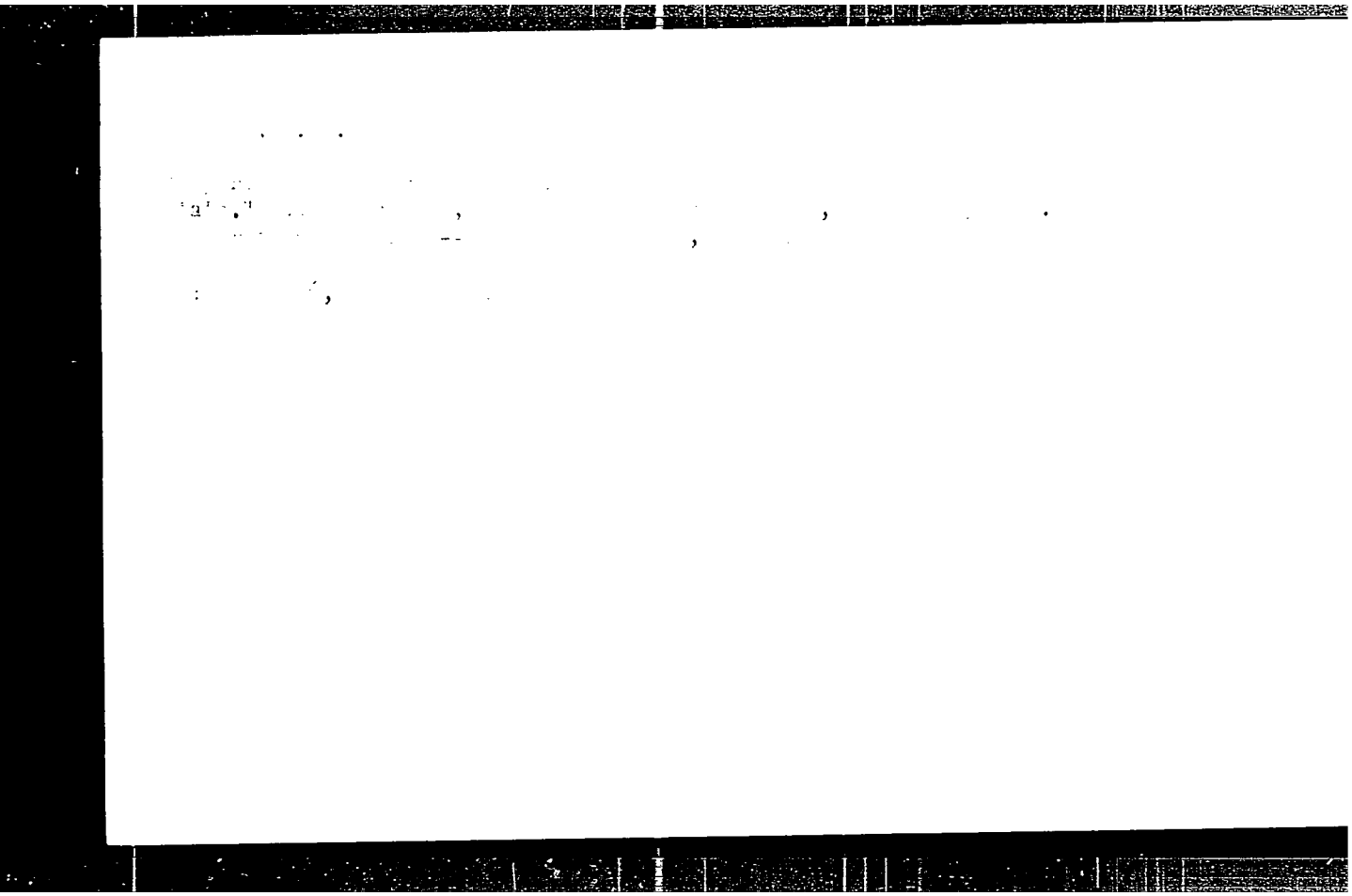
ASSOCIATION: none

SUBMITTED: 16Jul62 ENCL: 00 SUB CODE: IE,MM

NO REF SOV: 000 OTHER: 000 ATD PRESS: 4093

Card 1/1 DP





PETROVA, N. A.

USSR/Engineering - Safety factors

Card 1/1 Pub. 22 - 20/47

Authors : Davidenko, N. N., active member of the Acad. of Scs. of the Ukr-SSR; Stavrogin, A. N.; and Petrova, N. A.

Title : Safety factors in destruction of brittle substances

Periodical : Dok. AN SSSR 99/1, 73-75, Nov 1, 1954

Abstract : Experiments with brittle substances (glass, gypsum, and brittle steels), conducted for the purpose of establishing safety factors (criteria of strength), are described. The experiments were conducted with respect to both tensile and compression strength. Results are given. Five references (1931-1950). Graphs; tables.

Institution : Leningrad Physico-Technical Institute of the Acad. of Scs. of the USSR

Submitted : ...

SHASHIN, M.Ya., kandidat tekhnicheskikh nauk; PETROVA, N.A., inzhener; VOLYNKIN, V.V.

Comparison criteria for hardening by shot peening processes. Vest. mash. 35 no.10:37-41 O '55. (MLRA 9:1)
(Shot peening)

SOV [illegible]

T[illegible] from Refer[illegible] Zh[illegible] Me[illegible] [illegible] USSR

AUTHORS: Pe[illegible] N A, Sl[illegible] M Ya

TITLE: [illegible] Dat[illegible] Comp[illegible] of T[illegible] Bars [illegible]

PERIODICAL: [illegible] Moscow, Leningrad, Mashgiz, 195[illegible], pp 11[illegible]

ABSTRACT: The advantages of emp[illegible] bars [illegible] spring suspension systems are [illegible] and drawbacks [illegible] existing methods of computing their strength on the basis of results of static tensile tests are described. Taking into account the alternating stress [illegible] operation of components with a limited life and [illegible] overload periods to which they are exposed, the author proposes a method permitting one to compute the [illegible] and [illegible] bars made of high-strength [illegible]. Experimental data are [illegible] that the [illegible] the line representing the stress [illegible] limited endurance [illegible] the diameter of the bar, as well as of the ratio of the fatigue strength to the static strength of a steel. V A Byk[illegible]

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PETROVA, N.A., kandidat tekhnicheskikh nauk; SHASHIN, M.Ya., kandidat tekhnicheskikh nauk.

Depth of hardened layers in work pieces subjected to shot blasting. Vest.mash.36 no.11:47-50 N'56. (MLRA 10:1)
(Shoot peening)

PETROVA, V. A.

AUTHOR: Shashin, M.Ya., and Petrova, N.A., Candidates of Technical Sciences. 122-2-3/23

TITLE: The endurance strength of torsion bars under reversing loads (Tsiklicheskaya prochnost' torsionnykh valov)

PERIODICAL: "Vestnik Mashinostroyeniya" (Engineering Journal) 1957, No.2, pp. 19 - 24 (U.S.S.R.)

ABSTRACT: Torsion bars are regarded as over-stressed components with a limited life. Hence, the fatigue strength for a given number of stress cycles (two millions chosen here) and the slope of the stress curve versus number of reversals in logarithmic co-ordinates are the criteria of merit. The effects of material specification, size, and shot peening procedure were examined. Silicon steels of either 0.6% carbon and 1.7% silicon or 0.7% carbon and 2.6% silicon were tested as well as an alloy steel of 0.46% C, 1% Cr, 1.5% Ni, 0.17% Mo, 0.22% Si, 0.65% Mn, 0.1% V or Ti. All were oil-quenched and tempered when made into torsion bar springs of between 20 and 48 mm diameter. The effect of shot peening depends on the specific shot energy, defined as the total kinetic energy of the shot received per unit of surface. The dependence is exponentially asymptotic to a maximum value reached in practice at a specific energy of 40 ton metres per square metre. Shot peening also increases

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AUTHORS: Petrova, N.A., Shashin, M.Ya., Latsh, V.V. 32-11-40/60

TITLE: The Application of the Method of X-Ray Structural Analysis for the Investigation of Changes in the Upper Layers of the Metal by the Method of Scrap Slinging (Primeneniye metoda rentgenostrukturnogo analiza dlya issledovaniya izmeneniy v poverkhnostnykh sloyakh metalla pri drobemetnom naklepe)

PERIODICAL: Zavodskaya Laboratoriya, 1957, Vol. 23, Nr 11, pp. 1372-1374 (USSR)

ABSTRACT: This method of studying processes occurring in steel while being worked to sorbite steel by means of the scrap slinging process was investigated. The attempt was made to determine the depth and the degree of the plastic deformation occurring on this occasion. The samples were produced from chromium-molybdenum steel (0.33% C; 1.11% Gr; 0.35% Ni; 0.18% Mo), which was first hardened and then annealed to sorbite. The scrap slinging treatment was carried out in different ways by application of the device "ДУ -60", and the following expression was obtained by simplified parameters:

scrap velocity: v in $\frac{m}{sec}$ with a specific scrap energy of $M \frac{tm}{m} \frac{2}{4.5}$.

X-ray investigation of the samples was carried out in a special

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The Application of the Method of X-Ray Structural Analysis for the Investigation of Changes in the Upper Layers of the Metal by the Method of Scrap Slinging

camera with neutral intensity standard. The camera was arranged in such a manner that on one film the required interference line -Fe and the standard line were recorded. For the purpose of controlling the work performed, pictures of the sample in its original state were inserted after every 7-8 X-ray pictures. X-ray photographs were photometrized on the microphotometer "M ϕ -2". X-ray pictures were taken of the surface of the samples as well as of various parts located at different depths from the surface. Decrease of the layer of metal was brought about by etching in a 50% H_2SO_4 solution at an amperage of 0.25-0.30 A/cm^2, which was micrometrically recorded. In the course of work the values:

$M = 60\text{-}100 \frac{tm}{m^2}$ and accordingly the value $\frac{I}{I_{standard}} = 1.6 - 1.4$ was computed. At the same time it was found that the curve of the ratio $\frac{I''2}{I_{standard}}$, which is connected with an increase of the intensity of the manner of working which, in turn, is accompanied by an increase of deformation, leads to a critical moment for the parameter value

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M at 60-100 $\frac{tm}{m^2}$, and that the deformation (of third degree) towards the inside of the sample decreases rapidly, so that at ~ 0.15-0.19 mm the value $\frac{I^{112}}{I_{standard}}$ hardly differs at all from the original value. On the strength of the results obtained it was found that the value $\frac{I^{112}}{I_{standard}}$ = 1.6 ÷ 1.4 on the surface of the sample and, accordingly, M = 60 ÷ 100 $\frac{tm}{m^2}$ are to be considered as criteria for the optimum manner of processing in the scrap-slinging process applied to chromium molybdenum steel (with R = 28 ÷ 32 of the initial thermal treatment). The application of the harder working methods may cause micro-cracks and other damage to the material, and may also diminish the limit of metal fatigue. There are 4 figures and 5 Slavic references.

AVAILABLE: Library of Congress

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DUSHEYKO, D.A.; PETROVA, N.A.; [illegible], Yu.P.

Composition of the [illegible] "[illegible] [illegible] [illegible] dehyde." Zhur.[illegible] [illegible]

1. Filial [illegible] [illegible], Shostka.

L 24174-66 EWT(d)/EWT(l)/EWP(e)/EWT(m)/EWP(w)/EPF(n)-2/EWA(d)/T/EWP(t)
IJP(c) JD/WW

ACC NR: AR6005233 SOURCE CODE: UR/0058/65/000/009/E130/E131

AUTHOR: Mishin, D. D.; Petrova, N. A.

TITLE: Temperature dependence of the magnetic properties of 79NM permalloy

SOURCE: Ref. zh. Fizika, Abs. 9E1084

REF SOURCE: Sb. Fiz. magnitn. yavleniy. Sverdlovsk. 1964, 118-120

TOPIC TAGS: temperature dependence, permalloy, magnetic permeability, magnetic induction, magnetic saturation, magnetic coercive force, heat treatment, magnetostriction/ 79NM permalloy

TRANSLATION: A study is made of the influence of the temperature t on the magnetic permeability μ, the saturation induction B_S, the remanent induction B_r, and the coercive force H_c of high-permeability 79NM permalloy. Toroidal samples were first subjected to high temperature heat treatment (HT) in vacuum at 1100C with subsequent cooling at a rate of 180C per hour to 600C, and then together with the furnace. The low temperature HT, i.e., aging, was in argon at 445C for 10 hours. It is established that after the first HT μ depends strongly on t and has a maximum near 100C. After aging, the temperature dependence of μ in the region 150--300C is stronger, and at -196 to 100C it is weaker. After aging, B_S increases and changes its temperature dependence, especially in the region of low temperatures. At -196C, B_S increases by 25% after aging. After aging, H_c greatly decreases in the region of low temeprature, this being attributed to a decrease in the magnetostriction λ and the stress σ. The

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same causes explain the increase of μ. The increase of B_r after aging is attributed to the occurrence of a magnetic texture. N. Smol'kov.

SUB CODE: 20

Card 2/2 FV

DUSHEYKO, D.A.; PETROVA, N.A.; VILENSKIY, Yu.H.

Effect of electrolytes on the solubility of the "[illegible] - disulfobenzaldehyde - polyvinyl acetal" complex in water. Zhur. nauch. i prikl.fot. i kin. 9 no.6:411-413 N-D '64.

(MIRA 18:1)

1. Filial Vsesoyuznogo nauchno-issledovatel'skogo kinofotoinstituta, Shostka.